

QUESTION:

The velocity of sound at 0 degree celsius and 76cm of mercury conditions is 332m/s. Find the velocity of sound at 27 degree celsius.

SOLUTION:

The approximate speed of sound in air at temperatures near 0 °C at 76 cm of mercury (1 atm), can be calculated from:

$$c_{sound} = (332 + 0.606 \cdot t) \text{ m/s}$$

Here t is temperature in degrees Celsius (°C).

Hence, at 27 degrees the speed of sound is

$$c_{sound} = 332 + 0.606 \cdot 27 = 348.4 \text{ m/s}$$

ANSWER**348.4 m/s**